ABSTRACT OF THE DISCLOSURE

An electron bombardment heating apparatus, in which thermions emitted from filaments 9 are accelerated and impinged upon a heating plate 2, so as to heat the heating plate 2, wherein a periphery wall of a heated material supporting member 1 having a heating plate as a ceiling thereof is made up with multi-staged periphery wall portions 13a and 13b, being piled up vertically and different in the radius thereof, and those periphery wall portions 13a and 13b are connected with each other by means of a ring-like horizontal wall 5. With this, thermal stress can be mitigated, which is caused due to the difference of temperature between the lower end portion of the heated material supporting member 1 and the heating plate 2 when heating up the heating plate 2, thereby bringing about no breakage in the heated material supporting member if conducting heating and cooling upon the heating plate, repetitively.

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